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REMARKS

The Office Action mailed December 4, 2003, has been carefully considered together with each of the references cited therein. The amendments and remarks presented herein are believed to be fully responsive to the Office Action. The amendments made herein are fully supported by the Application as originally filed. No new matter has been added. Accordingly, reconsideration of the present Application in view of the above amendments and following remarks is respectfully requested.

Claim Status

Claims 1-21 and 24-28 are pending in this Application. By this Amendment, claims 1-3, 6, 8-10, 13-19, 24, and 28 have been amended. Claims 7, 23, 24, and 28 have been cancelled, while new claims 30 and 31 have been added. The claims under consideration are, therefore, believed to include claims 1-6, 8-21, 24-27 and 29-31.

Claim Rejections Under 35 USC § 112, Second Paragraph

Claims 3, 6, 7, 8, 10, 13, 14, 18, 19, 21, 24 and 27-28 stand rejected under 35 USC § 112, second paragraph, as being indefinite. The Office is of the position that such claims are rendered indefinite for use of the phrase "and combinations thereof." Applicants have amended the subject claims cancelling the phrase "and combinations thereof."

Applicants expressly state that cancellation of the phrase "and combinations thereof" does not constitute relinquishment of the claim coverage provided by such language. In furtherance of this position, where applicable, Applicants have inserted the phrase "at least one" to the limitation which is further defined by the Markush group from which the phrase "and combinations thereof" has been deleted.

In view of the foregoing, it respectfully contended that the 35 USC § 112.

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second paragraph, rejection has been overcome.

Claim Rejections Under 35 USC § 102

Claims 1-6, 9-13, 16, 17-21 and 24-27 stand rejected under 35 USC § 102(e) as being anticipated by Priestley et al. (US 2002/0021439 A1). This rejection is respectfully overcome.

As defined by amended claim 1, Applicants claim a method for color management by a retailer including the step of choosing an engineered color standard (ECS), wherein the ECS includes, at least, reflectance data. The method also includes communicating the ECS to a product vendor, having a product produced using the ECS and controlling the product's color quality by generating reflectance data for the product and comparing the reflectance data of the ECS to the product's reflectance data.

Independent claim 2 recites a method wherein an ECS includes at least one component selected from the group consisting of reflectance data and a dye specification. The method also includes producing a product using the ECS, wherein the product includes at least one product component selected from the group consisting of reflectance data and a dye specification. Furthermore, a controlling step is recited wherein the color quality of the product is controlled by comparing the ECS to the product so the at least one component of the ECS is the same as the at least one product component.

Independent claim 9 also recites a method for color management by a retailer and includes the step of providing an engineered color standard wherein the engineered color standard has reflectance data and a dyestuff formula.

Independent claim 17 recites a method for color management including the steps of receiving a product having a color from at least one requester and analyzing the color to obtain an engineered color standard, wherein the engineered color standard comprises reflectance data, and communicating the ECS to the at least one requester.

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The Office is of the position that Priestley et al. meets the limitations of the claims, and in particular, meets the limitation that the reference photograph taught by Priestley includes reflectance data and dye specification. Specifically, in paragraph 4, sub-paragraph 2 of the Office Action, the Office contends that Priestley discloses:

2. A method for color management by a retailer (page 3, paragraph 0036) comprising the steps of: choosing an engineered color standard (ECS), the ECS comprising a component, the component being reflectance data and a dye specification (page 3, paragraph 0035-0036)...

Applicants respectfully can not agree with this interpretation of Priestley.

The method disclosed by Priestley uses the system of RGB color identification. Specifically, paragraph 0033 of Priestley states "the color values are represented by the intensity of red, green and blue components of that value." Further support for the fact that Priestley uses the RGB method of color analysis is found in paragraph 0034 wherein it is stated "thus, the three color components (for red, blue and green) are generated from the constituents of the color values of the original image." Still further evidence is found in paragraph 0098, which states:

[T]he analysis proceeds to determine the average and most dominant color value in each area. The color value is represented by the intensities of red, green and blue components of that value so that a color map of the tooth can be visualized.

It is therefore evident that Priestley employs the RGB method of analysis in its color matching system.

It is Applicants' courteous position that the Office has equated the RGB method of color matching with the instant method of using reflectance data to match the color, which is in error. The RGB method employs the relative intensities of red, green and blue, given a particular light source used to capture the image of the object, to arrive at a distinct color for a defined region of an object. That is, each defined region of an object is assigned a particular color value which is a function of

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the light source used and the intensity of the red, green and blue found within that area. This method is distinct from the use of reflectance data. In defining color using reflectance data, the light reflected from an object is measured at various wavelengths and is not dependent upon, or derived from, the intensity of red, green and blue. Furthermore, the RGB values derived for any region of an object are dependent upon the light source used in capturing the image of the object. This is in stark contrast to employment of reflectance data as reflectance data is measured directly from the ECS using a spectrophotometer and is not dependent upon the type of light source employed in the measurement.

The RGB values dependence upon a light source has severe ramifications when perceiving and matching color, namely, metamerism can not be eliminated. Metamerism is defined in The Measurement of Appearance, Hunter, John Wiley and Sons, 1975, pp. 89 and 90, as follows:

Metamerism is present when two objects having the same color appearance nevertheless have different spectral curves. The layman recognizes metamerism when two objects that match under one illuminant fail to match under a second.

Applicants note that the Office's rebuttal of Applicants' previous arguments (paragraph 10(e) of the Office Action), contains the assertion that Priestley's

"procedure of calibrating a sampled color to its standard color using another color standard would overcome the effects of environmental influences like lighting, and hence overcome metamerism." Applicants can not agree.

Simply put, a product produced using as a standard a facsimile of the original object (derived from an image of the original object via the RGB method), may be perceived as having a different color than the original object. This can occur because the original object and the standard may have different spectral curves, or because the product and the original object may have different spectral curves, or because the product and the standard may have different spectral curves. The cause of this difference in perceived color is that with the RGB method, the entire spectral curve is distilled into three values. Two objects (the standard versus the

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original object, or the product versus the original object, or the product versus the standard) may have different spectral curves but will reduce to the same RGB values when using a particular light source. However, when viewed under a different light, the RGB values may change, and those changes may result in a different perceived color. Metamerism can only be eliminated by measuring a spectral curve. A spectral curve is derived using reflectance data.

It is well settled that a sustainable rejection under § 102 requires the prior art to disclose each and every aspect of a claimed invention. As amended, independent claims 1, 2, 9, and 17, recite use of reflectance data. Employing reflectance data is nowhere disclosed, taught, or suggested by Priestley. In consequence, it is Applicants' respectful position that such claims, and all claims depending therefrom, are not anticipated by Priestley.

Furthermore, assuming *arguendo*, that one with ordinary skill in the art, having a knowledge of Priestley, would contemplate substituting reflectance data in the method set forth in Priestley, such artisan would be forced to first abandon the teachings of Priestley, and as a result, would have an express disincentive to do so. To the best of Applicants' knowledge and understanding, there is no known scientific/mathematical calculation by which RGB values can be converted into reflectance data. Thus, an ordinary artisan contemplating the substitution of reflectance data for the RGB method of Priestley must first discard the teachings of Priestley in order to contemplate the modification. Furthermore, such artisan would, thereafter, have to go beyond the teachings of Priestley to arrive at a method that employs reflectance data. Nowhere in Priestley is such motivation to be found, and in consequence, Applicants assert that any such motivation is the product of impermissible hindsight gained by a knowledge of Applicants' disclosure.

With particular attention to independent claim 2, which recites that a component of the ECS may be a dye specification, the Office states that page 3, paragraphs 0035 and 0036, of Priestley disclose the dye specification. Applicants can not agree.

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The disclosure of Priestley, in paragraphs 0035 and 0036 states that the "paint house", once it receives the picture of the tooth to be replicated, creates a dye formulation. Thus, in Priestley, there is no engineered color standard having a dye specification that is communicated to the vendor, which in Priestley's method, is the "paint house". The photograph sent to the paint house does not contain any dye formulation.

For at least the foregoing reasons, Applicants' respectfully assert that Priestley et al. does not anticipate Applicants' amended claims, and therefore, solicits reconsideration and withdrawal of the rejection.

Claims 7, 8, 14, 15, 28 and 29 stand rejected under 35 USC § 103(a) as being unpatentable over Priestley et al. (US 2002/0021499A-1) in view Wasinger et al. (US 5,533,722). This rejection is respectfully overcome.

All of the claims cited in the § 103 rejection are dependent claims, and for at least the reasons with the respect to the § 102 rejection in view of Priestley, it is Applicants' position that such claims are not made obvious by Priestley et al. in view of Wasinger et al.

Additionally, the color method of Wasinger utilizes a television camera as the method of determining the color of a textile to be treated. See column 2, lines 53-55 and column 4, lines 16-20 and 45-47.

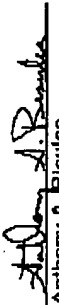
Applicants maintain the position that any combination of Priestley with Wasinger does not render any of the claims obvious. Specifically, Wasinger can not be construed as providing motivation to employ reflectance data as there is no known way by which an image from a television camera can be converted to obtain reflectance data. For at least these reasons, it is respectfully contended that claims 7, 8, 14, 15, 28, and 29 are not made obvious by any combination of Priestley in view of Wasinger. Reconsideration and withdrawal of the rejection is therefore sought.

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As the total number of claims does not exceed the number of claims originally paid for, no fee is believed due. However, if an additional fee is required, the Commissioner is hereby authorized to credit any overpayment or charge any fee deficiency to Deposit Account No. 03-2060.

In view of the foregoing amendments and remarks, the present Application is believed to be in condition for allowance, and reconsideration of it is requested. If the Examiner disagrees, he is requested to contact the attorney for Applicants at the telephone number provided below.

Respectfully submitted,


Anthony A. Bisulca
Attorney for Applicant
Registration No. 40,813

Customer Number 25,255

CLARIANT CORPORATION
INDUSTRIAL PROPERTY DEPARTMENT
4000 Morris Road.
Charlotte, NC 28205
(704) 331-7151
Fax (704) 331-7707